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on Savage and Civilized Russia, and of Russell on Russian Wars with Turkey cannot be omitted from the list of those who wish to read up on the seat of war.

The Tenth Report of the Peabody Museum is one of the most interesting in the series. We have already referred to Dr. Abbott's paper. Those of Professor Andrews and Admiral F. Bandelier are worthy of careful study.

Two articles have appeared in the New York *Nation* concerning the Nes Percés in the numbers for July 12th and August 2d. The same journal, September 6th, treats of the Indian policy of Canada and of the United States.

The archæological section of the Academy of Sciences at St. Louis, has published a caution to collectors against imitations of pottery, etc., from the mounds. The same difficulty has arisen in England and Germany with reference to antiquities within their own borders and from the East: notably, Flint Jack, the Shapira collection of Moabite pottery, and the carvings from the Thurigen Cave, near Schaffhausen in Switzerland. Colonel Whittlesey has done good service in exposing frauds in hieroglyphics, and Mr. J. D. Moody of Mendota, Illinois, sends a pamphlet of four pages, attacking the authenticity of the Rockford Tablet. No one should be more zealous than the archæologists themselves in unearthing everything of the kind, since no amount of doubtful material will aid the truth in the least.—O. T. MASON, Washington, D. C.

GEOLOGY AND PALÆONTOLOGY.

THE SAURIANS OF THE DAKOTA EPOCH.—Professor Cope has recently described two additional species of terrestrial saurians from the Dakota rocks of Colorado, which rival the *Camarasaurus supremus* in dimensions. They are referred to a new genus which resembles *Camarasaurus* in the chambered character of the vertebral centra, and in the peculiar interlocking articulation of the neural arches, but differ from it in the amphicœlous character of the centra and the form of the neural spine, which is longitudinal instead of transverse. The articulation of the neural arches alluded to is very peculiar, and is effected by the presence of a new vertebral element which Professor Cope calls a hyposphe. It is an inverted wedge which is attached to the posterior zygapophyses below them by a median vertical plate of bone. This plate enters a deep fissure between the anterior zygapophyses and it results that the latter are tightly embraced between the posterior zygapophyses above, and the hyposphe below. This structure is the reverse of that of the zygosphen articulation.

The new genus is called *Amphicœlias*, and the species *A. altus* and *A. latus*. The length of the femur of the former is six feet two inches, a little exceeding that of the *Camarasaurus supremus*, but it is more slender. The elevation of a dorsal vertebra is three feet two inches. The *A. latus* is characterized by robustness, as the *A. altus* is by elongation of parts. A caudal vertebral cen-

trum is ten inches in transverse diameter; with others it is more depressed and more deeply bi-concave than the corresponding vertebra of *C. supremus*. The femur of this species is very thick, its length is fifty inches and the diameter fourteen inches.

Additional remains of *Camarasaurus supremus* include a femur six feet, and a scapula five and a half feet in length. The posterior dorsal vertebræ exceed in dimensions those of any known saurian, equaling those of the right whale. The centra measure sixteen inches in transverse diameter.

MOUNT LEBANON FISHES IN DAKOTA.—Many years ago Dr. Hayden obtained some fossil fishes from the Cretaceous No. 3 of Dakota. They have been recently examined by Professor Cope, who describes them in the late number of the Bulletin of the United States Geological Survey of the Territories. He refers them to the genera *Triænaspis* g. n., *Leptotrachelus* Mark, *Ichthyotringa* g. n., *Spaniodon* Pict., and *Sardinius* Mark. The first, second and third genera belong to the *Dercetidæ*, and *Leptotrachelus* has been found in Syria and Westphalia. *Ichthyotringa* is allied to *Dercetis* of Westphalia, and *Triænaspis* to *Pelagorhynchus* of the same region. *Spaniodon* is a well-known Lebanon type and *Sardinius* is abundant in Westphalia. This determination adds evidence to that already in our possession, showing the wide distribution of types in the Northern Hemisphere during past time.

CRETACEOUS FISHES OF ENGLAND.—E. Tully Newton of the British Geological Survey, has recently discovered the Kansas genera *Portheus* and *Ichthyodectes* in the chalk of Kent, and finds several species of both.

CLEPSYDROPS IN TEXAS.—Professor Cope has recently obtained this genus from the so-called Triassic formation of Texas. This discovery confirms the reference of the *Clepsydrops* shales of Illinois to that formation or the Permian, in opposition to the view at first maintained by Professor Bradley that they are a member of the coal measures.

THE GENUS TETRACONODON.—Dr. R. Lydekker has recently described the dentition of this genus, which was discovered by Falconer in the Sivalik formation of India. He regards it as a bunodont Artiodactyle allied in some degree to *Hippopotamus*. He finds it to be very peculiar in that the premolar teeth are of relatively enormous size, although simple in their form. The characters of the genus resemble those of *Elotherium*.

THE AFFINITIES OF THE DINOSAURIA.—Professor Owen recently described an interesting Dinosaurian under the name of *Omosaurus armatus*. At the close of the article he makes some remarks on the structural relationships of the order. He thinks that the pubic bone is directed forwards, not backwards, as asserted by Huxley. The bird-like structure of the tibio-tarsal articulation,

first pointed out by Cope, he attempts to explain in another way. He regards the supposed astragalus of *Laelaps* and *Pæcilopleuron* as homologous with the tibial epiphysis of *Mammalia*, rather than with the astragalus, and he homologizes the distal tarsal element of *Dinosauria* with the mammalian diaphysis rather than with the second tarsal series.

Professor Owen has recently described an English species of *Laelaps* under the name of *Pæcilopleuron minor*.

TRIASSIC SAURIANS FROM PENNSYLVANIA.—Additional material received from Charles M. Wheatley, of Phoenixville, embraces some species of extinct reptiles from the Trias of Pennsylvania not included in the last report. (See Proceedings of the American Philosophical Society, 1877, p. 182.) These are of especial interest as introducing to American palæontological science two genera only known heretofore from the European Trias, viz: *Thecodontosaurus* and *Palæosaurus* of Riley and Stuchbury. These are called *T. gibbidens* and *P. fraserianus*. A third new species belongs to the genus *Suchoprion*, and is described as *S. sulcidens*. Mr. Wheatley has also obtained additional specimens of *Suchoprion cyphodon*, *Belodon priscus*, *Palæoconus appalachianus*, and *Clepsysaurus wheatleianus*. Teeth of the last-named saurian indicate a larger animal than the type, and nearly equal to the *Palæoconus appalachianus*.

NEW ARTIODACTYLES OF THE UPPER TERTIARY.—Three new genera allied to *Oreodon* have recently been discovered in the Loup Fork beds of Montana, and been described by Professor Cope under the names of *Pithecistes*, *Brachymeryx* and *Cyclopidius*. All three are selenodont, have the mandibular symphysis coössified, and a deficiency in the number of the incisor teeth. In the first two genera there are only three premolars. In *Pithecistes* the inferior canine is functionally developed, there are but one or two incisors on each side, and the anterior premolars are broader than long. In *Brachymeryx* the premolars are trenchant except the last superior, which has four columns. The first inferior, is functionally the canine. *Cyclopidius* is similar to *Leptauchenia* in its dentition, excepting in the presence of only two inferior incisors on each side. The frontal region is occupied by enormous vacuities, two of which extend between the orbits, and are separated by the very narrow nasal bones, which, in the type species *C. simus*, do not extend beyond the lachrymal fossæ. The superior facial region is excavated, and the cavity is reached from the sides by a huge foramen in the facial plate of the maxillary bone. A second species, *C. heterodon* is described. The species of the other genera are *P. brevifacies* and *B. feliceps*.

Accompanying these was found a species of *Blastomeryx* (Cope) as large as the black-tailed deer, which is called *B. borealis*. The genus *Blastomeryx* is believed by Professor Cope to be the ancestor of the existing *Cervidæ*, as *Dicrocerus* is of *Antilocapra*.